THE INSTITUTE OF PHYSICS

47, BELGRAVE SQUARE, LONDON, S.W.1.

BULLETIN

No. 3 — *Information in this circular is not intended for general publication: your copy should not therefore be passed to a library.* — MARCH 1950

DIARY OF INSTITUTE MEETINGS

Members may bring guests to any of the meetings listed below unless otherwise indicated.

March 14th (Electronics Group). 5.20 p.m. at the Institute's House, 47 Belgrave Square, S.W.1.
Group Annual General Meeting followed (at 5.30 p.m.) by **Mr. A. G. Milnes, "Magnetic Amplifiers and Some Related Devices."**

March 16th (Midland Branch). 5.0 p.m. at the University of Birmingham, Edgbaston.
Professor N. F. Mott, "Some Advances in the Theory of Creep in Metals."

March 17th (Electronics Group). 6.30 p.m. jointly with the British Institute of Radiology, at 32 Welbeck Street, W.1.
"The Biological Effects of Non-Ionizing Radiations with Particular Reference to Microwaves."

March 17th (Manchester and District Branch). 7.0 p.m. in the New Physics Theatre, University of Manchester.
Professor W. Sucksmith, "The Determination of Phase Boundaries by Magnetic Methods."

March 18th (Education Group and South Wales Branch). 3.0 p.m. at the Technical College, Cardiff.
Several papers on **"The Place of Physics in School Education."**

April 3rd, 4th, 5th (Stress Analysis Group). At University College, London.
Annual Conference.

April 13th, 14th (X-ray Analysis Group). At the Royal Institution, Albemarle Street, W.1.
Annual Conference. **"The Production and Application of High Intensity X-ray Beams."**

April 14th (Manchester and District Branch). Joint meeting with the Huddersfield section of the Royal Institute of Chemistry at 7 p.m.
Dr. J. S. Anderson, "Conductivity, Catalysis and Surface Reactions on Oxides."

April 18th, 19th The Exhibition of Vacuum Equipment which was being arranged by the Midland Branch for April 18th, 19th is postponed until June 27th and 28th.

April 21st (London and Home Counties Branch). 2.30 p.m. Afternoon visit to the Laboratories of British Scientific Instrument Research Association. Numbers limited and tickets required

April 25th (Scottish Branch). 7.0 p.m. at the Natural Philosophy Department, University of Glasgow.
Professor F. C. Williams, "Electronic Calculating Machines."

April 25th (North-Eastern Branch). 7.0 p.m. in the Physics Department, King's College, Newcastle-upon-Tyne.
Dr. L. A. Sayce, "The Light Division of the National Physical Laboratory."

April 26th (Scottish Branch). 7.0 p.m. at the Natural Philosophy Department, University of Edinburgh, Drummond Street.
Professor F. C. Williams, "Electronic Calculating Machines."

April 28th (Industrial Spectroscopy Group). 5.30 p.m. at the Institute's House, 47 Belgrave Square, London, S.W.1.
Dr. P. Coheur, "Direct Spectrochemical Analysis."

April 28th (South Wales Branch). 8.0 p.m. in the University College, Aberystwyth.
Mr. E. R. Davies, "The Photographic Plate in Nuclear Physics."

NOTICES TO MEMBERS

Forthcoming Publication

Papers given at the Buxton Convention session on the "Acceleration of Particles to High Energies" are being published by the Institute in the "Physics in Industry" series. There is a Foreword by Professor M. L. Oliphant and the papers are:—

I. The Cyclotron by Prof. J. Rotblat.
II. Betatrons and Synchrotrons by Mr. F. K. Goward.
III. Electrostatic Generators by Mr. E. S. Shire.
IV. Linear Accelerators by Mr. E. S. Shire.

The discussion on these papers has been edited by Mr. V. J. Francis. The price of the volume is 10s. 6d. net, plus 10d. for postage and packing, but members (all grades) are entitled to one copy for their *personal use* at 7s. 6d. including postage and packing. Orders, accompanied by remittance, should be sent forthwith.

Vacation Students

The Institute has been able to give some help in the last two or three years to students who wish to spend part of the vacation in an industrial or other laboratory. Enquiries have again been made of a considerable number of firms and research associations and it is gratifying to find considerable willingness to provide facilities for students to obtain really useful experience. Many students have little idea of the type of scientific work done in industrial organizations and the experience is a great help in deciding upon a future career.

Details of the vacancies which have been notified to the Institute will be circulated to Professors of Physics and Heads of Technical College Physics Departments in order that they can recommend suitable students to the firms. Students will not receive details of the vacancies, but those who are interested are asked to

consult their Professors or Heads of Departments. This method of circularization has been adopted so that students may be recommended for posts which their aptitude and interests are likely to make useful.

Scientific Films Census

In connexion with the Information Service of the Scientific Film Association, a national survey is being made of makers, owners and users of scientific and similar films.

The Association has found that the private producer of individual films is sometimes reluctant to make available the kind of information now being sought, for fear of being embarrassed by a large number of inquiries arising out of the publication data about his film or films. When desired, however, the Association is prepared to treat such communications as confidential for its own records. The kind of statement which is now needed should give the maker's name and address, the title of the film, its gauge and length or running time, and preferably a brief synopsis. Further details of the work of the Association may be obtained from the Secretary, 4 Great Russell Street, London, W.C 1.

PROCEEDINGS OF THE BOARD

The Board met on January 19th; the President in the Chair. In addition to formal business the following items were dealt with.

Finance.—It was learned with pleasure that the Royal Society had made a further Grant-in-aid of £200 towards the Institute's publications, making £950 in all for the year. The thanks of the Board were recorded for this further help.

Although it was too early for any definite conclusion to be reached, the Treasurer was able to report that so far the number of resignations received on account of the increased subscriptions was less than had been anticipated. He was requested to invite those tendering their resignations for financial reasons to re-consider them.

Education.—A short debate took place on proposals submitted by the National Advisory Council on Education for Industry and Commerce concerning Higher Technological Education. Members of the Board were requested to submit their views in writing and the Officers were asked to prepare the draft of a statement commenting on the proposals.

In response to invitations the following appointments were made: to the Committee of enquiry into the provision of Higher Technological Education in the London and Home Counties, Mr. F. Twyman; to the Applied Science Advisory Committee of the Royal Technical College, Salford, Dr. R. Witty; to the Exploratory Committee of the City and Guilds of London Institute relating to the Education and Training of Instrument Mechanics and Technicians, Mr. N. Clarke, Deputy Secretary.

Publications.—The Treasurer, in his capacity of Deputy Chairman of the Publications Policy and Monograph Committees presented the report of these Committees. This included an interim statement on the working of the new publications policy (the dividing of the Journal and the establishment of the Bulletin) on the Monographs in the "Physics in Industry" series in hand, and on the books being published on behalf of the Institute by Messrs. Edward Arnold and Company. The report showed that the Committee was causing enquiries to be made regarding seven more monographs, mostly based on symposia arranged under the Institute's auspices. The Education Committee was asked to arrange for the early publication of the first half dozen educational pamphlets which had already been agreed to by the Board in principle. These, it will be remembered are intended primarily for the use of students working for National Certificates in Applied Physics.

Joint Council of Professional Scientists.—The Board agreed to the proposed new basis for representation on the Joint Council of Professional Scientists, namely that each of the following Institutes should have three seats on the Council: The Institute of Biology, The Royal Institute of Chemistry, The Institution of Metallurgists, The Institute of Physics. As there is at present no professional body representative of geologists and mathematicians one member of each of these professions would be co-opted. For the current session the representatives of The Institute of Physics will be the President, the Treasurer, and the Secretary. This Council, which originated as a joint consultative Committee of the Royal Institute of Chemistry and The Institute of Physics during the war, will continue to have as its main purpose joint consultation between the scientific professions on matters of mutual interest.

The Board had referred the complaint of a Fellow to the Joint Council, concerning the conditions under which scientists in the service of Colonial Governments might undertake extra-mural work. The Joint Council proposed that a letter over the signatures of the Presidents of the four Institutes shall be sent to the Colonial Office and the draft was approved, in principle, by the Board for the President's signature.

Authority was granted for the Institute to continue to provide the Secretariat for the Joint Council.

Conventions and Conferences.—Preliminary consideration was given to the holding of further Physics in Industry Conferences similar to those held before the war and to the holding of Conventions similar to that held in Buxton last year. It was provisionally agreed to arrange a "Physics in Industry" Conference (open to non-members) in 1952 and another Convention in 1953.

FORTHCOMING CONFERENCES AND EXHIBITIONS

The Physical Society's Annual Exhibition of Instruments and Apparatus

The 34th annual exhibition of scientific instruments and apparatus arranged by The Physical Society will be held at the Imperial College, South Kensington, London, from 31st March to 5th April. The sessions will be as follows:—

Friday, 31st March, 2–9 p.m.
Saturday, 1st April, 10 a.m.–1 p.m and 2–5 p.m.
Monday, 3rd April } 10 a.m.–1 p.m. and 2–9 p.m.
Tuesday, 4th April }
Wednesday, 5th April, 10 a.m.–1 p.m. and 2–5 p.m.

The Saturday morning session is intended mainly for schools and the employees of exhibiting firms.

Admission to all sessions will be by ticket, the numbers of which will be restricted, owing to the limited accommodation available. The Institute will receive a small allocation of tickets for its members (all grades) and applications, giving a first and second choice of session, should be made to the Secretary of the Institute. Members who will be receiving tickets through other channels (e.g. by virtue of membership of The Physical Society or from their place of work) are asked not to request tickets from The Institute of Physics' small supply.

Conference on Rubber Chemistry

The Division of Rubber Chemistry of the American Chemical Society is holding an international meeting in Cleveland, Ohio, U.S.A., on October 11 to 13, 1950. This is open to all scientists and technologists interested and papers are invited. Further information is obtainable from Mr. C. R. Haynes, Secretary to the Division of Rubber Chemistry, Binney & Smith Co., 41 East 42nd Street, New York 17, New York, U.S.A.

Fourth World Power Conference

Provisional programmes and application forms for membership of the Fourth World Power Conference, to be held in London on July 10–15, 1950, are now available. The theme of the Conference is "World Energy Resources and the Production of Power." Details may be obtained from The Conference Offices, Fourth World Power Conference, 414 Cecil Chambers, 76/86 Strand, London, W.C.2. (Temple Bar 1234, Ext. 473.)

International Congress on Crystallography

The International Union of Crystallography announces that the second General Assembly and International Congress will be held in Stockholm from June 27 to July 3, 1951. Further particulars of the meeting will be announced later.

Conference on the Physics of Lubrication

A Conference arranged jointly by the Manchester and District Branch of The Institute of Physics and the British Rheologists Club will be held in the University of Manchester from June 29 to July 1 next, on "The Physics of Lubrication." The general arrangements will be similar to those for the Conferences arranged by the Branch in previous years. It is intended to devote sessions to fluid film lubrication, boundary and extreme pressure lubrication and the physics of lubricants.

Suggestions for papers will be welcomed and should be sent, as soon as possible, to the Conference Secretary, Mr. D. A. Crooks, Imperial Chemical Industries Ltd., Dyestuffs Division, Hexagon House, Manchester, from whom further details may be obtained.

NEWS OF MEMBERS

Fellows

A. Ferguson has been elected an Honorary Life Member of the Faraday Society.

The following professional appointments have been notified:

F. J. Lehany—Chief, Division of Electrotechnology, National Standards Laboratory, Chippendale, N.S.W., Australia.

T. H. O'Beirne—Chief Mathematician, Barr and Stroud Ltd., Anniesland, Glasgow.

W. Somerville Vernon—Vice-Principal, City of Cardiff Technical College.

F. A. Vick—Professor of Physics, University College of North Staffordshire.

Associates

The following professional appointments have been notified:

P. J. Doyle—Chief Physicist, The Hosiery and Allied Trades Research Association, Leeds.

P. J. Duncton—Head of Technical Department, Research Division, Fairey Aviation Co. Ltd., Heston, Middx.

H. Jenkins—Assistant Lecturer in Physics, Department of Extramural Studies, University of Leeds.

J. R. Mills—Principal Scientific Officer, Telecommunications Research Establishment, Malvern.

"If, as a result of getting to know each other, we can encourage the industrialist to seek out the scientist, the scientist to come to earth occasionally and visit the factory, and can cause the good to be less harsh to the clever and the clever less rude to the good—our efforts will be worth while!" A. H. S. HINCHLIFFE.

REPORTS AND OFFICIAL PUBLICATIONS

The following Reports and Official Publications have been received and are deposited in the Members' Room:

D.S.I.R. Report for the Year 1947–48, *with a review of the Years* 1938–48. Pp. iv + 103. (London: H.M. Stationery Office.) Price 2s. net. Ten pages devoted to the Report of the Committee of the Privy Council for Scientific and Industrial Research. Records the increase in expenditure from £682,180 in 1938–39 to £2,694,061 in 1947–49. The Report of the Advisory Council covers 90 pages divided into sections: The Origin of the Department's Structure; Preparation for War: War-time Activities; Preparation for Peace; Sociological Research; Research by Small Firms; Post-War Development of Existing Establishments; Mechanical Engineering Research; Civil Engineering and Hydraulics Research; Scientific Staff; The Department of Scotland; Collaboration with Other Government Departments; Research Associations; Research by Industrial Firms; Research and the Nationalized Industries; Research and Development; Grants to Research Workers and Students; Commonwealth and Foreign Liaison; Colonial Research and Development; German Science; The Position in 1948. Usual statistical data and lists are given in five Appendices.

The National Physical Laboratory—Report for the Year 1947. Pp. viii + 58. (London: H.M. Stationery Office.) Price 1s. 3d. net.

Meteorological Office. Annual Report of the Director, 1948–49. Pp. 48. (London: H.M. Stationery Office.) Price 9d. net.

The National Foundation for Educational Research. Third Annual Report, 1948–49. Pp. 28. (London: National Foundation for Educational Research.) Records progress of main research branches and notes decision not to extend programme for the present.

Heriot-Watt College Report Session for 1948–49. Pp. 64.

Who's Who of Consulting Engineers. Pp. 197. (London: The Association of Consulting Engineers.) Price £1 1s. 0d. net. Includes a section on the functions and duties of consulting engineers and gives particulars of the individual members and firms.

Sir John Cass Technical College Report for 1948–49. Pp. 19.

British Electrical and Allied Industries Research Association. Twenty-ninth Annual Report for the Year 1948–49. Pp. 187.

APPOINTMENTS VACANT

Available only to applicants excepted from the Control of Engagements Order, 1947, *No.* 2021, *unless the situation is also excepted.*

The inclusion of particulars of a vacancy must not be taken to imply that the Institute necessarily approves of the terms offered or that might be offered. Candidates should satisfy themselves that these are satisfactory, and they may always refer to the Institute for advice. A suggested form of contract under which a qualified physicist might reasonably be expected to serve is available on request.

British Welding Research Association has a vacancy for a senior physicist with honours degree and some research experience. Applicant must be prepared to work with metallurgists and engineers on physical problems associated with welding research. Work located at B.W.R.A. Research Station, near Cambridge. Grading is that of Senior Scientific Officer. Salary £685–£880. Superannuation under F.S.S.U. Apply to Director of Research, 29, Park Crescent, London, W.1.

National Coal Board, North-Western Division. Applications are invited from suitably qualified personnel for the post of Assistant Dust Suppression Officers. Applicants, who should hold a 1st or 2nd Class Honours Degree in Physics, will be expected to undertake research and investigations in connexion with Dust Suppression measures in the Division. The appointment will carry the rank of Scientist Grade III (£350 × £25–£650) or Scientific Technologist Grade I (£420 × £20–£600), according to qualifications and experience. Applications, giving particulars of age, present salary, qualifications and experience should be submitted to the Divisional Establishment Officer, National Coal Board, North-Western Division, 47 Peter Street, Manchester, 2.

A well-known firm near Stockport invites applications for a Physicist or Engineer to take charge of a Mechanical Sciences Department within a Technical Division. High academic qualifications are required, preferably to Ph.D. standard, combined with a sound practical outlook. The work is of great interest and requires the ability to direct research into academic and applied problems involving a knowledge of physics and engineering. A knowledge of friction and statistical methods would be added qualifications. The post offers excellent prospects, particularly for a candidate endowed with energy and initiative, and the commencing salary offered is within the region of £600–£1,200, according to qualifications and experience. Box No. A.V.3, The Institute of Physics, 47 Belgrave Square, London, S.W.1.

British Electricity Authority, London Division. General Assistant Engineers. Applications are invited for appointments as General Assistant Engineer in the Communications Section of the Technical Department. Duties will be in connexion with testing and maintenance of the Private Communications System, owned and maintained by the Authority, including equipment using Line, Teleprinter and Radio Techniques. Applicants should have a Degree or Higher National Certificate in Engineering or equivalent, and should preferably have had Works experience. Scientific qualifications will be considered. The commencing salary, which is provisional and subject to adjustment by the appropriate negotiating machinery, will depend on qualifications and experience, but will be within the range of £392 8s. per annum to £523 13s. per annum, plus 5% or £25, whichever is the greater, as London Allowance. The appointments will be superannuable under the terms of the British Electricity Authority's Superannuation Scheme. Applications giving full particulars of education, training and experience should be forwarded to the Acting Divisional Secretary, British Electricity Authority, London Division, Ergon House, Horseferry Road, Westminster, S.W.1, so as to be received within 14 days of date of publication of this issue. Please quote reference L.D.50/20. J. N. Waite, Divisional Controller.

Courtaulds Limited have a vacancy for a young Honours graduate Physicist (or engineer with an interest in Physics) for work on industrial instruments in their Engineering Headquarters in Coventry. The work is primarily concerned with a wide variety of instruments and automatic control apparatus for chemical plant. Applicants should write in for a detailed form of application to the Director of Personnel, Courtaulds Limited, 16 St. Martins-Le-Grand, London, E.C.1, quoting a reference number B.50.

Research Laboratories of the General Electric Co. Ltd., North Wembley, Middx., have vacancies for senior and junior physics and mathematics graduates for research work in the following fields:—(*a*) microwave ciruit design and measurements, including wave guides and concentric lines; microwave aerial systems; (*b*) intermediate frequency equipment; (*c*) video frequency and special waveform generating circuits; (*d*) circuiting in connexion with high frequency valves, including travelling wave tubes; (*e*) servo-mechanisms. Openings also exist for technical control work in a group manufacturing X-ray tubes. Applications should be sent to the Personnel Officer and should contain full details of age, experience and qualifications.

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